probe. The user interface control electronics process the photodetector signals to provide an indication that a probe has been detected, as well as, the coordinate position of the center of the probe, both of which are output to the system controller. The actual control signal which enables selection of the feature is produced upon detecting the probe leaving contact with the screen, so that the last touched item is the selected one. Optionally concurrent feedback acknowledging the presence of the probe at the contact zone is provided by a visual indicator within said contact zone (including, but not limited to the display of a cross-hair, arrow, or cursor-like image) as well as optionally providing an audible indicator (including but not limited to: a simple tone, a complex tone, a musical note, a sequence of notes, a buzzer sound, a bell sound, a click sound).

Also illustrated in FIG. **8** is image display grid **220**, composed of uniform rectangular cells **222**. Display grid **220** is used to divide display screen **62**, into display cells, the centers of which correspond with the intersection points of the horizontal and vertical light beams, **212** and **214** respectively. Division of the display screen in this manner defines the smallest possible cell or contact region that may be detected by the user interface, a region having dimensions defined by the spacing between adjacent photodetectors. Of course, probes smaller than the contact region are detectable, but most probes will be larger. The programming menus of FIG. **7**, are designed so that user selectable feature images or icons confined within the boundaries are defined by one or more cells **222**. Each feature is defined by a predetermined cell or cells covering an area corresponding approximately to the selection image or icon. Each of the feature selection areas has a set of representative icons **230**, one of which is typically shown in a highlighted fashion to indicate the currently selected feature setting. Programming screen menus **150**, **152** also contains user selectable feature menu tabs **240**, to enable the user to select which menu of copying features is currently displayed on the screen. Each icon, button or tab is considered an active programming region, capable of providing visual feedback of its selection during normal feature programming operations. The remaining regions of programming screen **150**, **152** are inactive regions, which normally provide no indication that a user's finger has contacted the user interface in this region.

As shown in the simplified menu of FIG. **9**, which shows closely adjacent Menu Items **1**, **2**, **3**, and **4** (numbered **301-304**, respectively), corresponding in position and size to Touch Zones **1**, **2**, **3**, and **4** (numbered **310-313**, respectively), upon selection of an icon by a finger (with the same finger shown in solid lines touching the Menu Items on the display screen, and in dashed lines touching the corresponding Touch Zones to trigger detection by the source-detector pairs), which because of the size thereof, i.e., the small size of the touch zone area when compared to the relatively large size of the probe and it range of inadvertent movement, which is difficult to do.

In accordance with the invention, and as shown in the simplified menu of FIG. **10**, upon selection of any of menu items **301-304**, having width "x", which because of the size thereof renders selection difficult, the touch zones which correspond to those icons are expanded to a width "x+e" so that a finger or other commonly used probe will comfortably fit within a single area, i.e., an area which corresponds to a single feature selection. Width "x+e" is selected so that the sweep of relatively small inadvertant and unconscious movements of the finger or probe, i.e., shaking or the like, are small with respect to the size of the expanded area. Of course, the touch are may expand in either width, height, or both.

Referring to FIG. **11**, which illustrates a flow chart of the control steps followed by the system controller in accordance with the present invention, initially, the user interface signals the system controller that a probe has been detected as indicated by block **410**. Upon determining that a probe has been detected, the system controller interrogates the user interface to determine the grid coordinates corresponding to the center of the probe, block **412**. Subsequently, the system controller determines which programming screen cell or contact region corresponds to the probe coordinates received from the user interface, block **414**, and associates the screen cells touched with a function, block **416**. The controller highlights the function corresponding to screen cells touched at block **418**. In accordance with the invention, the controller then expands the number of cells and therefore the area associated with the touched functions at block **420**. Optionally, a group of adjacent, non-touched functions may be also expanded in size, at block **425**. The user will adjust his touch if a wrong touch is made, the larger areas allowing easier adjustments of selection between touch areas. Upon making a selection, detected at block **432**, the user selection is processed at block **434**. Upon completion of feature selection, the touched areas returns to a default size.

It will no doubt be appreciated that, in association with the change of size of the touch area, the corresponding image or icon may also be changed in size, to conform with the new touch area size. As the described embodiment illustrates, this is not required.

It will no doubt be appreciated that numerous changes and modifications are likely to occur to those skilled in the art, and it is intended in the appended claims to cover all those changes and modifications which fall within the spirit and scope of the present invention.

We claim:

1. A touch sensitive user interface system including:

a display screen for displaying a plurality of images representative of selectable options;

touch sensitive means for detecting the presence of a probe in contact with the display screen;

control logic, responsive to the touch sensitive means, for determining the contact position of the probe, and defining for each image representative of a selectable option, a first contact area of predetermined size, over which contact with the probe selects the option; and

said control logic, responsive to detection by the touch sensitive means, expanding the size of said first contact area, to allow selection thereof without contacting any adjacent contact areas, and upon completion of option selection, returning the expanded contact areas to said predetermined size.

2. The system as defined in claim **1** wherein a plurality of contact areas generally near the first contact area each have a predetermined size prior to probe contact in the first contact area, and said control logic, responsive to detection by the touch sensitive means at the first contact area, expands the size of said plurality of contact areas to allow selection of any thereof without contacting any other contact areas.